

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
22 December 2005 (22.12.2005)

PCT

(10) International Publication Number  
**WO 2005/121207 A3**

- (51) International Patent Classification<sup>7</sup>: C08G 63/688, 63/06, 63/91
- (21) International Application Number: PCT/JP2005/0 10999
- (22) International Filing Date: 9 June 2005 (09.06.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
2004-174783 11 June 2004 (11.06.2004) JP
- (71) Applicant (for all designated States except US): CANON KABUSHIKI KAISHA [JP/JP]; 3-30-2, Shimomaruko, Ohta-ku, Tokyo, 1468501 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KENMOKU, Takashi [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo, 1468501 (JP). FUKUI, Tatsuki [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo, 1468501 (JP). MIHARA, Chieko [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo, 1468501 (JP). KUSAKARI, Ako [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo, 1468501 (JP). YANO, Tetsuya [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo, 1468501 (JP).
- (74) Agents: OKABE, Masao et al; No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 1000005 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- (88) Date of publication of the international search report:  
30 March 2006
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POLYHYDROXYALKANOATE HAVING VINYL GROUP, ESTER GROUP, CARBOXYL GROUP, AND SULFONIC GROUP, AND METHOD OF PRODUCING THE SAME

(57) Abstract: To provide a novel polyhydroxyalkanoate having a reactive functional group in a molecule and a method of producing the same; and a novel polyhydroxyalkanoate having a new function obtained by chemically modifying the polyhydroxyalkanoate having a reactive functional group and a method of producing the same. By utilizing a vinyl group of a polyhydroxyalkanoate containing a unit having the vinyl group at a side chain thereof, a polyhydroxyalkanoate containing units having a carboxyl group, an amide group, and a sulfonic group in a molecule is induced.



WO 2005/121207 A3